

Application No. 10/519,501
Amendment under 37 CFR 1.111
Reply to Office Action dated February 8, 2007
June 08, 2007

IN THE CLAIMS

Please substitute the following claims for the pending claims with the same numbers respectively:

Claim 1 (Currently amended): A nitride semiconductor laser device provided with a window layer on a light-emitting end face of a resonator which comprises an active layer of a nitride semiconductor between n-type nitride semiconductor layers and p-type nitride semiconductor layers, wherein:

at least a radiation-emitting end face of said resonator is covered by said window layer comprising monocrystalline nitride of general formula $Al_xGa_{1-x-y}In_yN$, where $0 \leq x+y \leq 1$, $0 \leq x \leq 1$ and $0 \leq y < 1$, having a wider energy gap than that of [[a]] the active layer and being formed at a low temperature so as not to damage said active layer,

wherein said window layer comprises at least one of the metals of Group I.

Claim 2 (Previously presented): The nitride semiconductor laser device according to claim 1, wherein a thickness of the end

Application No. 10/519,501
Amendment under 37 CFR 1.111
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June 08, 2007

face window layer is higher than 50 Å, and is equal to an integer multiplicity of the emitted radiation wavelength ($n\lambda$).

Claim 3 (Previously presented): The nitride semiconductor laser device according to claim 1, wherein the end face window layer is of monocrystalline $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$) and is formed in a supercritical ammonia-containing solution.

Claim 4 (Previously presented): The nitride semiconductor laser device according to claim 3, wherein at least a p-type contact layer of the resonator is covered by a mask.

Claim 5 (Cancelled):

Claim 6 (Previously presented): The nitride semiconductor laser device according to claim 1, wherein the resonator active layer has a structure of a multiquantum-well layer comprising at least one InGaN well layer or InAlGaN well layer.

Claim 7 (Currently amended): The nitride semiconductor laser device according to claim 1, wherein the nitride

Application No. 10/519,501
Amendment under 37 CFR 1.111
Reply to Office Action dated February 8, 2007
June 08, 2007

semiconductor laser device structure is formed on a substrate selected from the group consisting of a GaN substrate, monocrystalline GaN substrate, sapphire substrate, spinel substrate, ZnO substrate, SiC substrate, ELOG-type substrate and [[a]] the substrate provided with a nitride semiconductor having a concavo-convex face.

Claim 8 (Previously presented): The nitride semiconductor laser device according to claim 7, wherein the nitride semiconductor laser device structure is formed on a C-plane, A-plane or M-plane of the monocrystalline GaN substrate.

Claim 9 (Currently amended): [[The]] A nitride semiconductor laser device ~~according to claim 1~~, provided with a window layer on a light-emitting end face of a resonator which comprises an active layer of a nitride semiconductor between n-type nitride semiconductor layers and p-type nitride semiconductor layers, wherein:

at least a radiation-emitting end face of said resonator is covered by said window layer comprising monocrystalline nitride of general formula $Al_xGa_{1-x-y}In_yN$, where $0 \leq x+y \leq 1$, $0 \leq x \leq 1$ and $0 \leq y < 1$,

Application No. 10/519,501
Amendment under 37 CFR 1.111
Reply to Office Action dated February 8, 2007
June 08, 2007

having a wider energy gap than that of the active layer and being
formed at a low temperature so as not to damage said active
layer, and

wherein the nitride semiconductor laser device structure is
formed on a C-plane of a monocrystalline GaN substrate and the
resonator end face window layer is grown on an M-plane or A-
plane.

Claim 10 (Currently amended): ~~[[The]]~~ A nitride
semiconductor laser device according to claim 1, provided with a
window layer on a light-emitting end face of a resonator which
comprises an active layer of a nitride semiconductor between n-
type nitride semiconductor layers and p-type nitride
semiconductor layers, wherein:

at least a radiation-emitting end face of said resonator is
covered by said window layer comprising monocrystalline nitride
of general formula $\text{Al}_x\text{Ga}_{1-x-y}\text{In}_y\text{N}$, where $0 \leq x+y \leq 1$, $0 \leq x \leq 1$ and $0 \leq y < 1$,
having a wider energy gap than that of the active layer and being
formed at a low temperature so as not to damage said active
layer, and

Application No. 10/519,501
Amendment under 37 CFR 1.111
Reply to Office Action dated February 8, 2007
June 08, 2007

wherein the nitride semiconductor laser device structure is formed on an A-plane of a monocrystalline GaN substrate, and the window layer is formed on a C-plane or M-plane of a resonator radiation-emitting end face.

Claim 11 (Currently amended): ~~[[The]]~~ A nitride semiconductor laser device according to claim 1, provided with a window layer on a light-emitting end face of a resonator which comprises an active layer of a nitride semiconductor between n-type nitride semiconductor layers and p-type nitride semiconductor layers, wherein:

at least a radiation-emitting end face of said resonator is covered by said window layer comprising monocrystalline nitride of general formula $Al_xGa_{1-x-y}In_yN$, where $0 \leq x+y \leq 1$, $0 \leq x \leq 1$ and $0 \leq y < 1$, having a wider energy gap than that of the active layer and being formed at a low temperature so as not to damage said active layer, and

wherein the nitride semiconductor laser device structure is formed on an M-plane of a monocrystalline GaN substrate, and the window layer is formed on a C-plane or A-plane of a resonator radiation-emitting end face.

Application No. 10/519,501
Amendment under 37 CFR 1.111
Reply to Office Action dated February 8, 2007
June 08, 2007

Claims 12-18 (Cancelled):